

REMARKS

Claims 39-51, and 65, as amended, and new claims 67-77 appear in this application for the Examiner's review and consideration. Claims 1-38 were canceled in a prior Preliminary Amendment and in this amendment claims 52-64 and 66 were cancelled; all claims were cancelled without prejudice. Applicants fully reserve their rights to prosecute the subject matter of any cancelled claim in one or more continuation, continuation-in-part, or divisional applications. The claims have been amended to more particularly point out the claimed subject matter and to correct inadvertent minor spelling and editorial errors, but no new matter has been added. The amendment to the claims and new process claims are supported by the original claims and the composition claims. In particular, claims 43-45 were amended to further clarify the expressions VS-n, VAPO-n, and VSAPO-n, as supported by the specification in ¶ [0009].

The substitute specification submitted with the Preliminary Amendment filed on December 30, 2005 contains no new subject matter and was submitted to correct minor typographical errors.

Claims 30-64 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for the reasons set forth on pages 2-4 of the Office Action. Applicants note that claims 30-38 were cancelled in the Preliminary Amendment filed on December 30, 2005. As to the remaining claims, the claims have been amended, rendering this rejection moot.

The Office Action alleges that the term "molecular sieves" is indefinite. Applicants remind the Office that a claim term is read in light of the specification and interpreted as one of ordinary skill would understand such term. The construction offered by the Office fails to read the specification, much less understand it as one of ordinary skill in the art. The invention uses more than one single molecular sieve, as explained in the specification. The molecular sieves are used as a cracking catalyst, hence more than one would be necessary. Further, the single limitation is that the sieves incorporate vanadium into their skeleton, as recited in the claim. Thus, when read in light of the specification by the skilled artisan, the claim terms are definite.

As applicants have amended the claims as to render this rejection moot, the rejection of claims 39-51 and 65 under 35 U.S.C. § 112, second paragraph, cannot stand and should be withdrawn.

Applicants note that the amendment to the claims removes any rejection under 35 U.S.C. § 101 as use claims are no longer present. Further, the double patenting rejection is also withdrawn as only product and process claims remain. Finally, contrary to the Office

Action's assertion that "[i]n the event they [process claims] are written to constitute proper process claims, they [process claims] may be withdrawn from consideration as directed to a non-elected invention and the office action will still be made FINAL," no restriction was made during the prosecution of the application and thus all claims must be examined. The claims must be included in the examination as no burden was imposed upon a search of the prior art as demonstrated by the rejection of the present claims.

Claims 39-64 stand rejected under 35 U.S.C. § 112, first paragraph as allegedly not enabled for the reasons set forth on pages 3 and 4 of the Office Action. As to the claims not cancelled, applicants respectfully traverse.

A patent need not teach, and preferably omits, what is well known in the art. *In re Buchner*, 929 F.2d 660, 661, 18 U.S.P.Q.2d 1331, 1332 (Fed. Cir. 1991); *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1384, 231 U.S.P.Q. 81, 94 (Fed. Cir. 1986), *cert. denied*, 480 U.S. 947 (1987). The fact that experimentation may be complex does not necessarily make it undue, if the art typically engages in such experimentation. *in certain Limited – Charge Cell Culture Microcarriers*, 221 U.S.P.Q. 1165, 1174 (Int'l Trade Comm) 1983), *Aff'd. sub. nom., Massachusetts Institute of Technology v. A.ZB. Fortia*, 774 F.2d 1104, 227 U.S.P.Q. 428 (Fed. Cir. 1985). Nothing more than objective enablement is required, and therefore, it is irrelevant whether the teaching is provided through broad terminology or illustrative examples. *In re Wright*, 000 F.2d 1557, 1561 (Fed. Cir. 1993); *In re Marzocchi*, 439 F.2d 220, 223, 169 U.S.P.Q. 367, 369 (C.C.P.A. 1971).

The Federal Circuit put forth relevant factors to consider when determining whether experimentation is undue. These factors include: (1) the quantity of experimentation necessary; (2) the amount of direction or guidance presented; (3) the presence or absence of working examples relating to the invention; (4) the nature of the invention; (5) the state of the prior art; (6) the relative skill of those in the art; (7) the predictability or unpredictability of the art; and (8) the breadth of the claims. *In re Wands*, 8 U.S.P.Q.2d 1400 (Fed. Cir. 1988).

The Office Action in a conclusory manner alleges non-enablement without setting forth any of the Wands factors. Further, the logic proposed by the Office Action is inconsistent with this rejection, because after alleging indefiniteness for using the term "molecular sieves" (plural), now the Office Action alleges lack of enablement for the "molecular sieve" (singular). It appears that any term of molecular sieve either plural or singular is unacceptable to the Office. Again, the Office Action fails to read the claim in light of the specification using the skill of the ordinary artisan.

The claims are enabled, as admitted by the Office Action (page 4), for the term molecular sieves. This term is set forth with clarity in the specification and examples. The applicant need only to teach the recited invention without teaching what is already known in the art, including how to use or define molecular sieves. As long as a person of ordinary skill in the art would have understood the inventor to have been in possession of the claimed invention at the time of filing, even if not every nuance of the claims is explicitly described in the specification, then the adequate written description requirement is met.

Thus, the rejection of claims 39-64 under 35 U.S.C. § 112, first paragraph, cannot stand and should be withdrawn.

Claims 39-45, 50-58, 63 and 64 stand rejected under 35 U.S.C. § 103(a) as purportedly rendered obvious over U.S. publication No. 2003/144141 to Bowman *et al.*, (the '141 publication) for the reasons set forth on pages 5 and 6 of the Office Action. Applicants have cancelled claims 52-58, 63, and 64, as to the remaining claims applicants respectfully traverse.

The consistent criterion for determination of obviousness is whether the prior art would have suggest to one of ordinary skill in the art that claimed subject matter should be carried out and would have a reasonable likelihood of success. *In re Dow Chemical Co.*, 837 F.2d 469, 473, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988). As the Examiner is well aware, in order to form a proper basis for a rejection under 35 U.S.C. § 103, the prior art must provide some suggestion, either explicit or implicit, of the combination that allegedly renders a claimed invention obvious. *M.P.E.P.*, § 2142 (June 1998), *see also*, *Panduit Corp. v. Denisson Manufacturing Co.*, 1 U.S.P.Q.2d 1593, 1597 (Fed. Cir. 1987). The Examiner can satisfy the burden of showing obviousness of the combination only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. *In re Sang Su Lee*, 277 F.3d 1338, 1343, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002); citing *In re Fritch*, 972 F.2d 1260, 1265, 23 U.S.P.Q.2d 1780, 1783 (Fed. Cir. 1992). The need for specificity is paramount, particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected the components for combination in the manner claimed. *Id.* The Examiner's conclusory statements do not adequately address the issue of motivation to combine; the factual question of motivation is material to patentability, and can not be resolved on subjective belief and unknown authority. *Id.*

The '141 publication discloses a method of preparing an olefin oxide directly from an olefin having three or more carbon atoms and oxygen in the presence of hydrogen and a catalyst, which comprises silver and titanium. (The '141 publication, abstract and p. 1, ¶ 0012). Another catalyst composition comprises silver, at least one promoter element and a titanium-containing support, where the promoter is Group 1, Group 2, zinc, cadmium, rare earth lanthanide, or actinide element. (*Id.* ¶ 0014). The novel process of the invention is useful for producing an olefin oxide directly from oxygen, hydrogen, an olefin having three or more carbon atoms, and an epoxidation catalyst. (*Id.* ¶ 0013 and p. 2, ¶ 0017).

The '141 publication fails to render obvious the claims of the invention as it fails to disclose various recitations of the claims, for example: a composition having molecular sieves, the molecular sieve has a skeleton, and vanadium is incorporated into the molecular sieve skeleton. The Office Action summarily states without citation that the prior art “discloses known compositions VS-1, VS-2, and VAPO materials” and that “these read directly on the claimed composition.” Yet nothing in the cited reference supports such a proposition. In the present invention, the vanadium is fixed into the skeleton, so as to avoid damage to the cracking active component, and is completely distinct from vanadium merely placed on the surface of a support element, which may induce loss of vanadium. (See Specification p. 7, ll. 3-6).

Further contrary to the Office Action, the claims reciting an “active component” (now amended to read zeolites) do not read on any additional material and even if they did, pages 1 and 3 fail to recite such materials.

The Office Action goes on to combine the “known composition” with the '141 publication (which itself fails to recite all the limitations as discussed above and imposes further restrictions such as the catalyst having silver and titanium) to attempt to render the claims obvious by using the reference with unsupported general knowledge. However, vanadium, which is required in the claims, is absent in this combination and not only is vanadium absent, any reason to use vanadium is also absent. Thus, the skilled artisan following the teachings of the '141 publication must exclude the explicit teachings of silver and titanium when arriving at the recited invention by this combination. Such acrobatics are neither taught nor suggested by the '141 publication and thus it cannot render the claims obvious.

Applicants wish to point out the need for specificity and that the particular findings must be made as to the reason why the skilled artisan, with no knowledge of the claimed invention, would have selected the components for combination in the manner claimed. As

proposed by the Office Action, the conclusory statements do not adequately address the issue of motivation to combine or address the specific elements of the claim.

The Office Action's analysis commits the mistake warned about by the Supreme Court, it concludes obviousness without any reasoning as why the skilled artisan would combine the reference with allegedly prior knowledge. *KSR Int'l. Co. v. Teleflex, Inc.*, 127 S.Ct. 1727 (2007). The Supreme Court noted that the analysis supporting a rejection under 35 U.S.C. § 103(a) should be made **explicit**, and that it was "**important to identify a reason** that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements" in the manner claimed. *Id.* at 1731 (emphasis added). The Court specifically noted:

Often it will be necessary ... to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an **apparent reason to combine** the known elements in the fashion claimed by the patent at issue. To facilitate review, **the analysis should be made explicit.**

Id. at 1741 (emphasis added). It is this "apparent reason to combine" that is lacking in the rejection. The Office Action generally states that "the claims reciting an 'active component' read on any addition to the material, for example the promoter metals or selectivating [sic] agents suggested by the prior art" and "with respect to support materials, it is considered that the skilled artisan would introduce such as desired and for their intended purpose." For a variety of reasons this statement fails to set forth the legal basis the Supreme Court required for establishing obviousness.

The fact that a material is known in the art is insufficient to establish obvious, otherwise only novel and non-obvious materials would be patentable and combinations of known elements would always be obvious. Further, the "alleged inherent property" is neither present nor apparent, as the prior art teaches a silver or silver-titanium catalyst for the production of olefin oxides by epoxidation, applicants fail to see the reasoning for including sieves containing vanadium with this metal catalyst or its ability to remove sulfur. Finally, the reasoning to combine the support materials must still be presented as desirable and not merely recited in a laundry list of possibilities.

Accordingly, the rejection of claims 39-45 and 50, under 35 U.S.C. § 103(a) as rendered obvious by the '141 publication cannot stand and should be withdrawn.

Accordingly, it is believed that claims 39-51, 65, and 67-77 are now in condition for allowance, early notice of which would be appreciated.

If any outstanding issues remain, the examiner is invited to telephone the undersigned at the telephone number indicated below to discuss the same. No fee is believed to be due for the submission of this response. Should any fees be required, please charge such fees to Kenyon & Kenyon, LLP Deposit Account No. 10-0600.

Respectfully submitted,

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